

REMARKS

This Amendment is filed in response to the Office Action dated Oct. 28, 2008. The Applicant respectfully requests reconsideration. All objections and rejections are respectfully traversed.

Claims 4, 8, 10, 18-20 and 24-42 are now pending in the application .

Claims 4, 8, 10, 19, 20, 24-27 and 39 were amended.

No new claims have been added.

Allowable Subject Matter

At paragraphs 6-7 of the Office Action, claims 32-28 were allowed and claims 24, 26, 28 and 30 were indicated to be allowable if written in independent form. The Applicant thanks the Examiner for this indication and has rewritten claims 24 and 26 in independent form.

Claim Rejections - 35 U.S.C. §102

At paragraphs 2-3 of the Office Action, claims 1, 4, 8-11, 18-20, 39 and 41 were rejected under 35 U.S.C. §102(e) over Brady et al., U.S. Patent No. 5,914,938 (hereinafter "Brady").

Claims 1, 4 and 8-11:

Claim 1, 9 and 11 are no longer pending in the application and accordingly their rejection is believed to be moot.

Claims 4, 8 and 18 have been amended to depend from indicated allowable claims 24 and 26. Such claims are believed to be allowable due to their dependency, as well as for other separate reasons:

Claims 18-20:

The Applicant respectfully requests reconsideration of the rejection of claims 18-20.

The Applicant's claim 18, representative in part also of claims 19-20, sets forth (emphasis added):

18. A method of operating a switch for frames in a computer network, comprising:

receiving a frame (received frame) at a port of said switch, said received frame containing one or more indicia of frame type, said one or more indicia of frame type including an indicia of a protocol type;

accessing a port index value associated with the port;

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said port index value;

accessing a forwarding data base with said derived VLAN value to determine a destination address; and,

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address.

Brady discusses a "method for locating an entry in a table..." in response to a frame. *See* Brady col. 2, line 59-61. First, "a search key, made up of the VLAN ID and the destination address retrieved from a received frame", is constructed. Brady notes, a "VLAN ID" associated with a frame may be obtained in one 3 different ways. A "VLAN ID may be obtained from processor 24" or "[a]lternatively, a VLAN ID may be obtained from protocol information associated with a received frame or from a VLAN ID header within the frame itself." *See* col. 5, lines 37-43 (emphasis added).

Brady further discusses that, once the search key made from the obtained VLAN ID and destination address of the frame is constructed, it is hashed to produce a "bucket ID value". *See* col. 5, lines 35-47 and 44-45. The "bucket ID value" is used to locate a "bucket" in a hash table. *See* col. 5, lines 45-46. Once the bucket is found, the search

key is compared against bucket entries inside of the bucket, to find an exact match; if an exact match is found, the frame is routed according to information contained in the matching bucket entry. *See* col. 5, lines 49-54.

The Applicant respectfully urges that Brady is silent concerning the Applicant's claimed "accessing a port index value associated with the port" and "deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said port index value."

First, Brady makes no mention of accessing an "index value" associated with a port, or using such an "index value" in deriving a VLAN value. The Applicant defines an "index value" in at page 12, lines 23-25 of the specification, stating (emphasis added):

There are generally two values assigned to each port of a switch: a virtual local area network (VLAN) value and an index value. **The index is essentially a 10-bit hard coded value that uniquely identifies the port of the switch.**

While Brady discusses a variety of types of values, none of these may fairly be interpreted as the claimed "index value" associated with the port, in light of the Applicant's definition. For example, while Brady discusses a "VLAN ID" that can be written "to an appropriate register within port controller 30", such a VLAN ID is quite different than the claimed "index value." The same VLAN ID may be associated with several ports of a switch, and thus is not a hard coded value that uniquely identifies a port of the switch.

Elsewhere, Brady mentions something he terms an "index value". However, when read in context, it is clear that what Brady terms an "index value" is simply a hash table index, and is not a hard coded value that uniquely identifies a port of the switch. At col. 2, lines 16-38 Brady describes (emphasis added):

In order to provide rapid access to the forwarding tables, **some Ethernet switches use a storage system based on hashing.** Hashing is a storage system ... [that] uses the value of a record's key as a search key and outputs an address within the storage space that the data can be placed in. ...The function used to generate array indices from search keys is called a hash function and the resulting array is generally referred to as a

hash table. **Unfortunately, generating appropriate array indices from keys often proves to be difficult. The reason is that if the keys for two different data records hash to the same index value,** then collisions will occur. Collisions pose a problem....

Such passage in Brady in no way suggests an “index value” that is a hard coded value that uniquely identifies a port of the switch.

Second, Brady does not suggest deriving a VLAN value in response to a combination of two factors, namely “*one or more indicia of frame type and said port index value*” as is claimed. Instead, Brady simply discusses obtaining a VLAN ID in response to one factor. Specifically Brady states a “VLAN ID may be obtained from processor 24” or “[a]lternatively, a VLAN ID may be obtained from protocol information associated with a received frame or from a VLAN ID header within the frame itself.” See Brady col. 5, lines 37-43. Thus Brady fails to teach this second aspect of the Applicant’s claims.

Accordingly, the Applicant respectfully urges that Brady is legally insufficient to anticipate claims 18-20 under 35 U.S.C. §102(e) because of the absence of the Applicant’s claimed novel “*accessing a port index value associated with the port*” and “*deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said port index value.*”

Claims 39 and 41:

The Applicant respectfully requests reconsideration of the rejection of claims 39 and 41.

The Applicant’s claim 39, representative in part also of claim 41, sets forth (emphasis added):

39. A method comprising:
- receiving a frame at an input port, the frame including a protocol type and a source address;
 - in response to the protocol type indicating a particular protocol type, *parsing the source address to obtain a subnet value;*

applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different subnet value;

accessing a forwarding database with the derived VLAN value to determine a destination address; and,

forwarding the frame to an output port for transmission to the destination address.

Brady is summarized above.

The Applicant respectfully urges that Brady is silent concerning the Applicant's claimed "*parsing the source address to obtain a subnet value*" and "*applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different subnet value.*"

First, Brady makes no mention of parsing a source address **to obtain a subnet value**. Brady does not mention subnet values in any context.

Second, Brady makes no mention of using any portion of a source address, much less a subnet value portion, in deriving a VLAN value. Brady merely mentions that in one configuration a "search key [used in searching a hash table] will be made up of a SA [source address] and VLAN ID." See col. 5, lines 55-61. Thus, Brady's source address is used along with his VLAN ID in searching the hash table; Brady's source address is not used to somehow obtain or derive his VLAN ID. As Brady describes at col. 5, lines 37-43, Brady's "VLAN ID may be obtained from processor 24" **or** "[a]lternatively, a VLAN ID may be obtained from protocol information associated with a received frame **or** from a VLAN ID header within the frame itself." See Brady col. 5, lines 37-43. Notably, Brady makes no mention of obtaining the VLAN ID using some portion of a received frame's source address.

Accordingly, the Applicant respectfully urges that Brady is legally insufficient to anticipate claims 18-20 under 35 U.S.C. §102(e) because of the absence of the Appli-

cant's claimed novel *"parsing the source address to obtain a subnet value" and "applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different subnet value."*

Claim Rejections - 35 U.S.C. §103

At paragraphs 4-5 of the Office Action, claims 25, 27, 29, 31, 40 and 42 were rejected under 35 U.S.C. §103(a) over Brady in view of Frantz, U.S. Patent No. 5,959,990 (hereinafter "Frantz").

Claims 25 and 27 have been amended to depend from indicated allowable claims 24 and 26 respectively. Such claims are believed to be allowable due to their dependency, as well as for other separate reasons:

Further, the Applicant notes that claims 29, 31, 40 and 42 are dependent claims that depend from independent claims believed to be allowable for at least the reasons discussed above. Claims 29, 31, 40 and 42 are believed to be allowable due to their dependency, as well as for other separate reasons.

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-2500.

In summary, all the independent claims are believed to be in condition for allowance and therefore all dependent claims that depend there from are believed to be in condition for allowance. The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit
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Respectfully submitted,

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